

Title (en)

Process and apparatus for cutting and sealing multiple plies of thermoplastic material having thickened sections.

Title (de)

Verfahren und Vorrichtung zum Trennschweißen mehrerer Lagen aus thermoplastischem Werkstoff mit verdickten Abschnitten.

Title (fr)

Procédé et appareil pour couper et souder des couches multiples de matériel thermoplastique ayant des sections épaissies.

Publication

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Application

**EP 89106269 A 19890410**

Priority

US 17979188 A 19880411

Abstract (en)

A process and apparatus is provided for cutting multiple plies of thermoplastic material (F) having thickened sections, such as defined by cross-sections of matable parts of a zipper closure (28) formed in the material, and for concurrently sealing the severed margins of the material which includes sealing the severed zipper closure portions thereof. The process and apparatus perform the operative steps of: first, preblocking the thickened material adjacent to the zipper closure portions of the material in areas thereof to be severed and sealed; then applying heat and pressure to the thickened material and remaining sections of the material in those areas to render the material tacky and temporarily stick the multiple plies together in those areas; and thereafter, contacting those areas of the material with a heated cutting and sealing element in order to sever all of the multiple plies and seal the severed margins thereof. Further, after the application of heat and pressure, the zipper closure portions of the material in the areas thereof to be severed and sealed are preheated. Also, after the margins of the multiple plies of material are severed and sealed, pressure is applied to the zipper closure portions at the severed and sealed margins to ensure sealing thereof.

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- [A] DE 2107043 B2 19730201
- [A] DE 2755860 B1 19790118 - STIEGLER KARL HEINZ
- [A] US 3257256 A 19660621 - MICHAEL LEHMACHER, et al
- [A] DE 2307105 B2 19760304

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